

SR-68, Bangerter Highway through Saratoga Springs

Salt Lake and Utah Counties, Utah

Environmental Assessment and 4(f) Evaluation

Submitted Pursuant to:
42 USC 4332(2)(C) and 49 USC 303

U.S. Department of Transportation
Federal Highway Administration
and
Utah Department of Transportation

Project No. HPP-TI-STP-0068(42)26

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CHAPTER 4 - SECTION 4(F) EVALUATION

This chapter identifies the Section 4(f) resources located in or adjacent to the Proposed Action and evaluates potential project-related impacts to those resources, along with avoidance alternatives (for adversely affected resources), measures to minimize harm, and coordination efforts. (Note: This chapter was written to be a stand alone submittal to FHWA and therefore, some information from the rest of the EA has been repeated).

4.1 REGULATIONS

4.1.1 Section 4(f)

Section 4(f) (49 USC 303) of the U.S. Department of Transportation (DOT) Act of 1966 was enacted to preserve publicly owned parks and recreation areas, wildlife and waterfowl refuges, and any historic sites on or eligible for the National Register of Historic Places (NRHP). The provisions of Section 4(f) only apply to agencies within the United States Department of Transportation).

- Section 4(f) (49 USC 303) states the following:

The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under Section 204 or Title 23) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance (as determined by federal, state, or local officials having jurisdictions over the park, recreational area, refuge, or site) only if:

 - 1) There is no prudent and feasible alternative to using that land; and
 - 2) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from use.
- The FHWA Section 4(f) regulations (23 CFR 771.135) also state the following:

In determining the application of Section 4(f) to historic sites, the Administration, in cooperation with the applicant, will consult with the State Historic Preservation Officer (SHPO) and appropriate local officials to identify all properties on or eligible for the National Register of Historic Places (National Register). The Section 4(f) requirements apply only to sites on or eligible for the National Register unless the Administration determines that the application of Section 4(f) is otherwise appropriate.
- In addition to Section 4(f) applicability to existing parks, recreation areas, and wildlife and waterfowl refuges, it applies to properties planned and formally designated by public agencies for one or more of the Section 4(f) protected land uses.

4.1.1.1 SAFETEA-LU and *De Minimis*

Section 4(f) evaluations have been amended in accordance with Section 6009(a) of the recently passed SAFETEA-LU. Specifically, FHWA is authorized to approve projects that



use Section 4(f) lands that are part of a historic property, publicly owned park and recreation area, and wildlife and waterfowl refuge without the preparation of an Avoidance Analysis if it makes a finding that such uses would have *de minimis* impacts upon the Section 4(f) resource with the concurrence of the officials with jurisdiction. Section 6009 of SAFETEA-LU adds the language below to Section 4(f).

4.1.1.2 De Minimis Impacts

The requirements of *de minimis* are as follows:

Historic Sites¹ – The requirement of this section shall be considered to be satisfied with respect to an area described in paragraph (2) if the Secretary determines, in accordance with this subsection, that a transportation program or project will have a *de minimis* impact on the area.

Parks, Recreation Areas, And Wildlife Or Waterfowl Refuges² – The requirements of subsection (a)(1) shall be considered to be satisfied with respect to an area described in paragraph (3) if the Secretary determines, in accordance with this subsection, that a transportation program or project will have a *de minimis* impact on the area. The requirements of subsection (a)(2) with respect to an area described in paragraph (3) shall not include an alternatives analysis.

Criteria³ – In making any determination under this subsection, the Secretary shall consider to be part of a transportation program or project any avoidance, minimization, mitigation, or enhancement measures that are required to be implemented as a condition of approval of the transportation program or project.

- Section 6009 (1)(A, B, C) of SAFETEA-LU states, “With respect to historic sites, the Secretary may make a finding of *de minimis* impact only if:
 - 1) The Secretary has determined, in accordance with the consultation process required under Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), that:
 - a) The transportation program or project will have *No Adverse Effect* on the historic site; or
 - b) There will be no historic properties affected by the transportation or project; or
 - c) The finding of the Secretary has received written concurrence from the applicable State Historic Preservation Officer or Tribal Historic Preservation Officer.
- Section 6009 (3) of SAFETEA-LU states, “With respect to parks, recreation areas, or wildlife or waterfowl refuges, the Secretary may make a finding of *de minimis* impact only if:
 - 1) The Secretary has determined, after public notice and opportunity for public review and comment, that the transportation program or project will not adversely affect the activities, features, and attributes of the

¹ SAFETEA-LU 6009(b)(1)(A)

² SAFETEA-LU 6009(b)(1)(B)

³ SAFETEA-LU 6009(b)(1)(C)



park, recreation area, or wildlife or waterfowl refuge eligible for protection under this section; and

- 2) The finding of the Secretary has received concurrence from the officials with jurisdiction over the park, recreation area, or wildlife or waterfowl refuge.

4.1.2 Section 106 of the National Historic Preservation Act

A federal law relevant to Section 4(f) is *Section 106 of the National Historic Preservation Act of 1966 (NHPA)*, as amended. This law is relevant to the Section 4(f) Evaluation because the law provides regulations whereby historic and prehistoric resources are identified and evaluated for eligibility for inclusion into the NRHP. A cultural resource survey may be required as a part of Section 106 to identify, inventory, and evaluate historic and prehistoric resources for eligibility to the NRHP. See the Historic and Archaeological section of Chapter 3 for more information regarding Section 106.

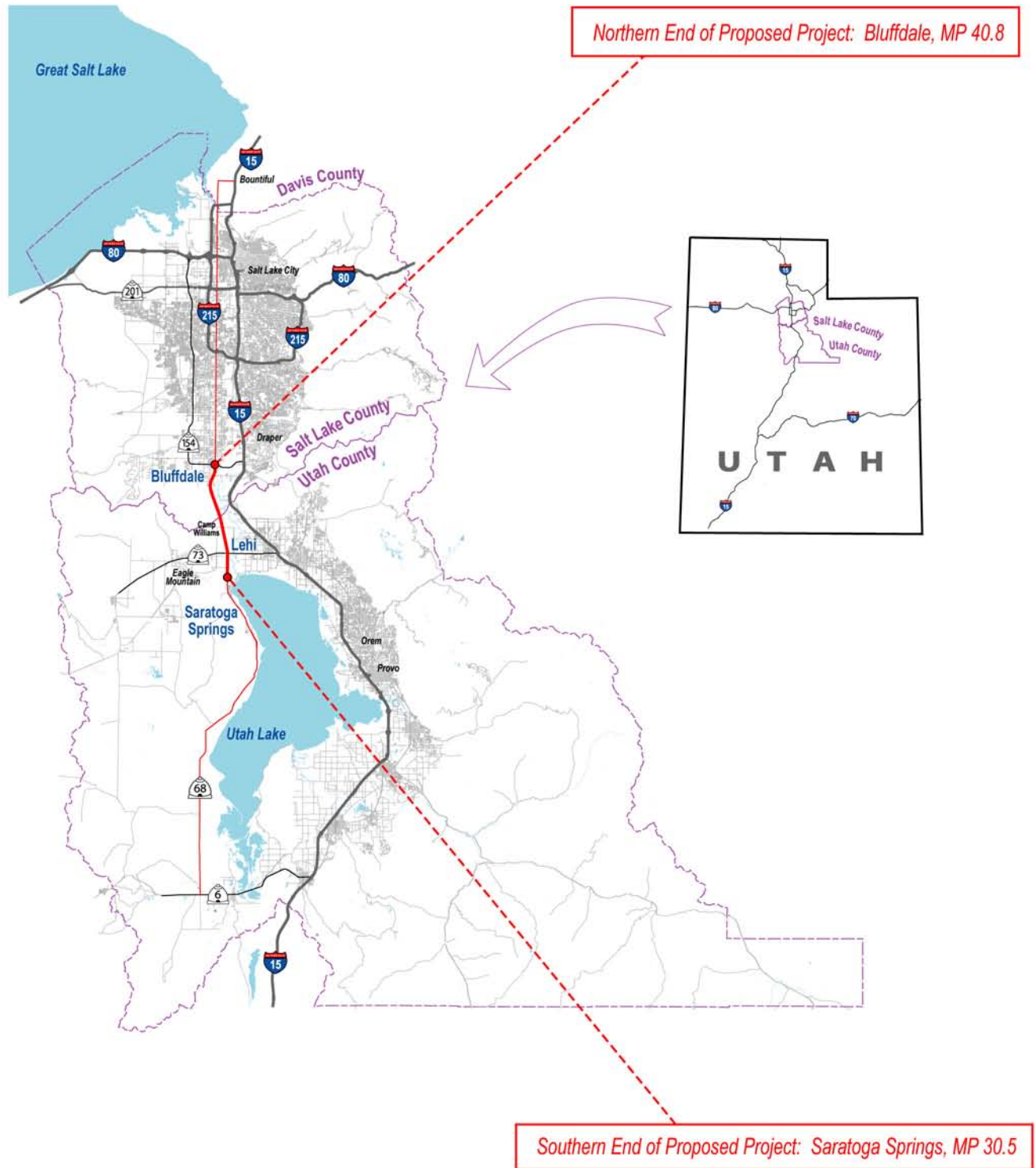
4.2 PROPOSED ACTION

As documented in Chapter 1 of this Environmental Assessment (EA), safety and mobility improvements are needed on SR-68 between the future Pony Express Parkway in Saratoga Springs and Bangerter Highway in Bluffdale (see Figure 4-1, Project Vicinity Map); a project corridor map is shown in Figure 4-2. The alternatives considered as part of this EA include the No Build and the Proposed Action. These are discussed in detail in Chapter 2.

The Proposed Action will widen SR-68 to four lanes with a center turn lane for turning movements within the project corridor. Additional lanes will be added at major intersections to facilitate turning onto and from cross streets. A standard 10-foot shoulder will be added along both sides of the roadway consistent with current design standards. Curbs, gutters, sidewalks, and bicycle lanes will also be included. The roadway cross section is consistent with roadway improvements approved along SR-68 north of Bangerter Highway (*Final Environmental Study, Redwood Road 10400 South to Bangerter Highway, SP-0068(24)43*, approved March 2005). The road grade and curves will be modified to meet current AASHTO design standards. Signage will be improved, and access to cross streets and driveways will be modified and/or controlled to improve the long-term use of the roadway.

In summary, the purpose and need of the Proposed Action includes the following:

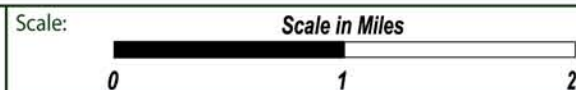
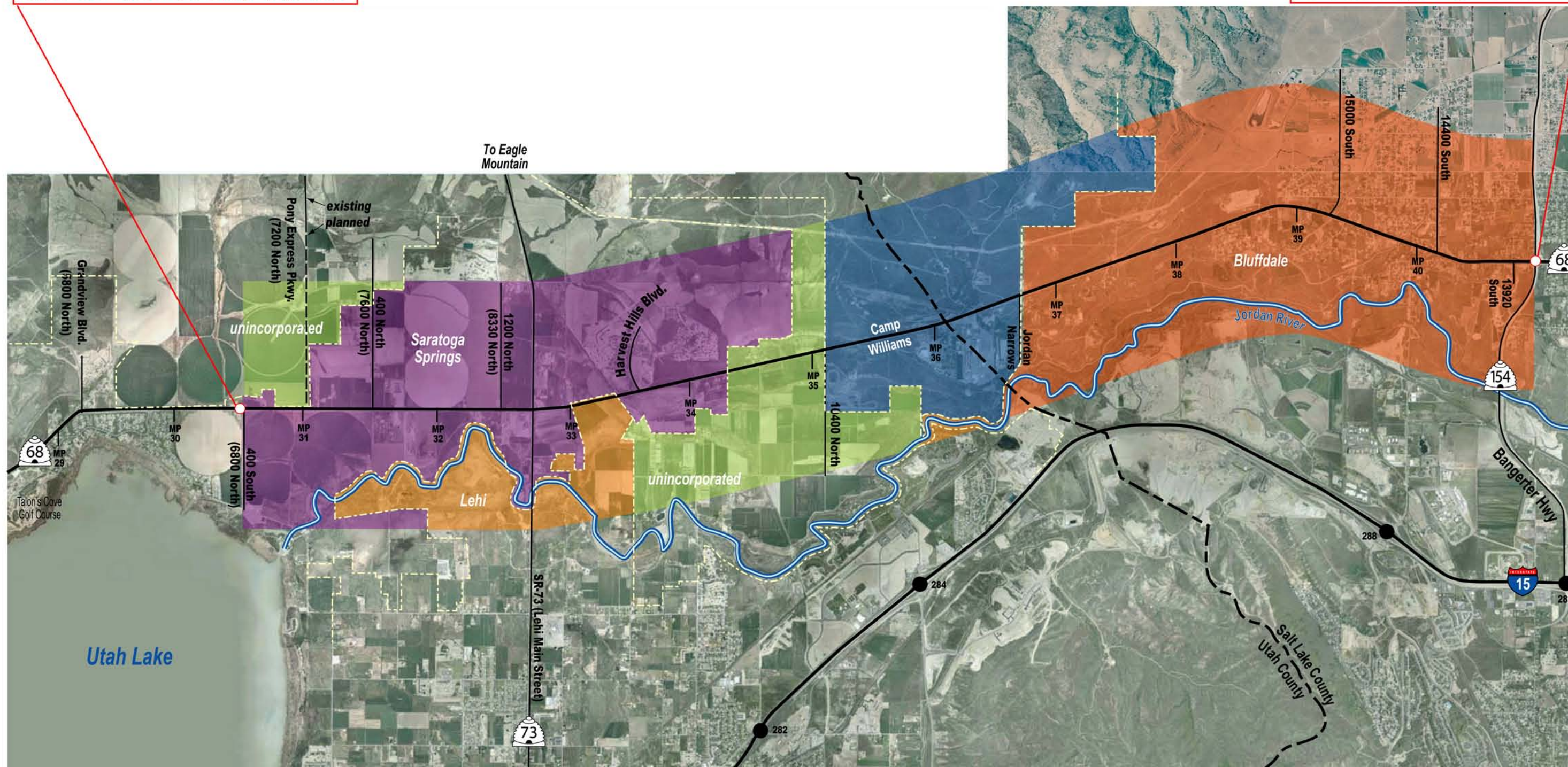
- Accommodating projected growth and traffic demand by increasing roadway capacity;
- Improving safety by eliminating existing non-standard highway design features and ensuring the roadway meets currently applicable AASHTO design guidance; and
- Maximizing long-term roadway capacity by applying access management policies consistent with UDOT highway classification.





Southern End of Proposed Project: Saratoga Springs, MP 30.5

Northern End of Proposed Project: Bluffdale, MP 40.8



--- Planned Roadways
--- Municipal Boundaries

Legend:
● I-15 Interchanges

Figure 4-2
Project Corridor Map



Roadway improvements are needed to accomplish the following objectives:

- Improve mobility, including reducing travel times and increasing reliability of travel times;
- Improve safety by bringing SR-68 up to current design standards, adding bicycle lanes and shoulders, improving intersections, and installing wildlife crossings near Camp Williams;
- Improve connectivity between existing transportation arterials and highways;
- Ensure consistency between land use plans and transportation infrastructure;
- Improve access to regional activity centers where suburban residents work and shop; and
- Design and construct the Proposed Action to be a sustainable transportation corridor that is an asset to the community.

4.3 IDENTIFICATION OF SECTION 4(F) RESOURCES

This part of the evaluation describes the Section 4(f) resources within the SR-68 project study area. The historic properties are discussed first, followed by public parks and recreational areas (there are no publicly owned wildlife or waterfowl refuges in or near the project corridor). The locations of the eligible historic properties are shown on Figure 4-3.

4.3.1 Identification of Historic Resources

A cultural resource survey was performed for this EA to comply with Section 106 requirements. Previously inventoried properties and properties identified in an intensive-level archaeological inventory and a selective reconnaissance-level architectural survey were documented in July and August 2006. FHWA and UDOT prepared a Determination of Eligibility (DOE). The purpose of a DOE is to document the findings of the Cultural Resources Inventory and to have SHPO concur with these findings. The DOE for this project was signed by SHPO on November 2, 2006; a copy is included in Appendix B.

Eligible resources are subject to Section 4(f) protection and are the only ones discussed in this chapter; ineligible resources are not. The eligible historic properties (including archaeological sites) are listed in Table 4-1 and include a brief description, the historic boundary, and the SHPO and NRHP eligibility criteria.

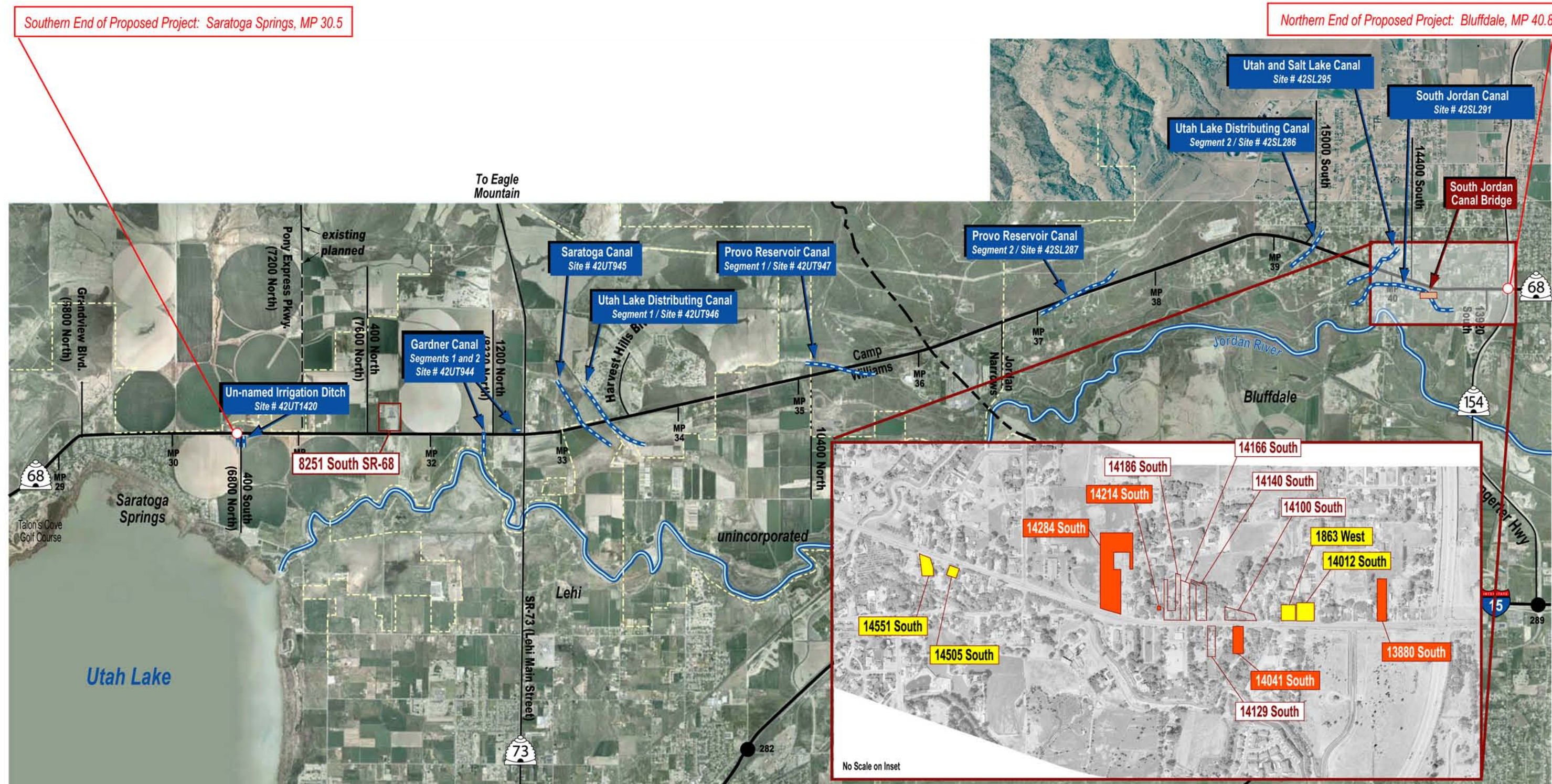




TABLE 4-1, SECTION 4(F) RESOURCES

Address/Name	Description	Historic Boundary	SHPO Rating ⁴	NRHP Criterion
Gardner Canal (42UT944)	<p>Historic irrigation canal located adjacent to SR-68 in two areas, all in Saratoga Springs.</p> <p>Segment 1 – Located east of SR-68 approximately 3,000 feet south of the SR-73 intersection. This segment extends directly east from Ditch #5 of the Multiple Property Submission and does not cross under SR-68.</p> <p>Segment 2 – Located on the southwest corner of the SR-68/SR-73 intersection. This segment is approximately 75 feet long and does not cross under SR-68.</p>	Canal right-of-way	N/A	A
8251 So. SR-68, Saratoga Springs	Historic house that is a Ranch/Rambler style building of Ranch/Rambler form constructed in 1960.	Current legal parcel boundary and agricultural fields near the residence	B	C
Saratoga Canal (42UT945)	Historic irrigation canal that crosses under SR-68 approximately 2,600 feet north of the SR-73 intersection.	Canal right-of-way	N/A	A
Utah Lake Distributing Canal (42SL286/42UT946)	<p>This historic irrigation canal crosses under SR-68 within the project area in two locations: one in Saratoga Springs and one in Bluffdale.</p> <p>Segment 1 – This segment crosses under SR-68 approximately 850 feet south of the Harvest Hills Boulevard intersection in Saratoga Springs.</p> <p>Segment 2 – This segment crosses under SR-68 in Bluffdale near Pinehollow Lane.</p>	Canal right-of-way	N/A	A
Provo Reservoir Canal/Murdock Ditch (42SL287/42UT947)	Historic irrigation canal that crosses under SR-68 in two locations: one just north of Saratoga Springs in Utah County and the other in Bluffdale in Salt Lake County.	Canal right-of-way	N/A	A

⁴ Buildings rated eligible under SHPO A or B categories may be eligible under NRHP Criterion A; but SHPO B-rated historic buildings generally are eligible to the NRHP only as contributing properties to a historic district or as part of a Multiple Property Submission. SHPO A-rated historic buildings and structures can be nominated alone under NRHP Criterion C if they meet the age and integrity requirements. Under NRHP Criterion C, "retention of design, workmanship, and materials will usually be more important than location, setting, feeling, and association" (Andrus 1997:48).



TABLE 4-1, SECTION 4(F) RESOURCES

Address/Name	Description	Historic Boundary	SHPO Rating ⁴	NRHP Criterion
	<p><u>Segment 1</u> – This segment crosses under SR-68 approximately 2,000 feet north of 10400 North just north of the Saratoga Springs corporate boundaries.</p> <p><u>Segment 2</u> – This segment crosses under SR-68 approximately 2,600 feet north of Jordan Narrows Road, just outside of Camp Williams in Bluffdale.</p>			
Utah and Salt Lake Canal (42SL295)	Historic irrigation canal that begins in the Jordan Narrows section of the Jordan River. The canal crosses under SR-68 approximately 1,700 feet south of the 14400 South intersection in Bluffdale. There is a secondary irrigation ditch on the east side of the roadway that extends north from the canal.	Canal right-of-way	N/A	A
14551 So. Redwood Rd ⁵ , Bluffdale	Historic house that is a Ranch/Rambler residence of vernacular Ranch/Rambler style constructed in 1958.	Current legal parcel boundary	B	C
14505 So. Redwood Rd., Bluffdale	Historic house that is a WWII Era Cottage of general Post-WWII style constructed in 1955.	Current legal parcel boundary	B	C
South Jordan Canal (42SL291)	Historic irrigation canal that begins in the Jordan Narrows section of the Jordan River. The canal parallels the east side of SR-68 for approximately 1,000 feet; within the project corridor this canal does not cross under SR-68. The canal runs adjacent to SR-68 between approximately 14600 South to 14000 South.	Canal right-of-way	N/A	A
South Jordan Canal Bridge	This historic bridge crosses over the South Jordan Canal at approximately 14000 South. It is currently not used.	Footprint of bridge	N/A	C
14284 So. Redwood Rd., Bluffdale	Vernacular residence of general Post-WWII type and style constructed in 1952.	Current legal parcel boundary	A	C
14214 So. Redwood Rd., Bluffdale	Historical outbuilding/shop; associated residence is considered ineligible for the NRHP constructed in 1950/1910.	Outbuilding footprint	A	C
14186 So. Redwood Rd., Bluffdale	Vernacular residence of general Post-WWII type and style constructed in 1955.	Current legal parcel boundary	B	C

⁵ Redwood Road is also known as Camp Williams Road and 1700 West in Bluffdale and Salt Lake County.



TABLE 4-1, SECTION 4(F) RESOURCES

Address/Name	Description	Historic Boundary	SHPO Rating ⁴	NRHP Criterion
14166 So. Redwood Rd., Bluffdale	Bungalow residence of Arts & Crafts and Greek Revival style constructed in 1913.	Current legal parcel boundary	B	C
14140 So. Redwood Rd., Bluffdale	Early Ranch/Rambler residence of Early Ranch/Rambler style constructed in 1952.	Current legal parcel boundary	B	C
14129 So. Redwood Rd, Bluffdale	WWII Era Cottage of general Post-WWII style constructed in 1951.	Current legal parcel boundary	B	C
14100 So. Redwood Rd., Bluffdale	Early Ranch/Rambler residence of Early Ranch/Rambler style constructed in 1952.	Current legal parcel boundary	B	C
14041 So. Redwood Rd, Bluffdale	WWII Era Cottage of general Post-WWII style constructed in 1953.	Current legal parcel boundary	B	C
1863 W 14100 So. (14024 So. Redwood Rd.), Bluffdale	Vernacular residence of general early 20th Century style constructed in 1927.	Current legal parcel boundary	B	C
14012 So. Redwood Rd., Bluffdale	Central Block with projecting bays residence of Victorian Eclectic style constructed in 1901.	Current legal parcel boundary	A	C
13880 So. Redwood Rd., Bluffdale	Ranch/Rambler residence of Ranch/Rambler style constructed in 1959.	Current legal parcel boundary	A	C



4.3.1.1 Multiple Property Submission – The Historical Agricultural Landscape of Northern Utah County

In addition to the Section 4(f) resources listed in Table 4-1, the SR-68 project corridor passes through a potential NRHP Multiple Property Submission (MPS) resource area in Utah County. This MPS is entitled *The Historical Agricultural Landscape of Northern Utah County* and was proposed as part of the Mountain View Corridor transportation project. The MPS includes historic farmsteads, ditches, canals and other water ways, landscape and vegetation patterns, and railroad tracks that may contribute to the overall historic setting of Northern Utah County. The rough boundaries for the MPS extend south from the Utah/Salt Lake County line to the Pleasant Grove city boundaries east to I-15 and west to the foothills above Saratoga Springs⁶.

The MPS has been accepted by the SHPO; however, it has not been submitted to the *Keeper of the Register*, the arbiter of the NRHP. Since it has been approved by SHPO for inclusion into the NRHP, the MPS will be considered as a historic property for the purpose of this Section 4(f) Evaluation. The MPS incorporates all of the criteria of the NRHP and is an integrated entity that includes all types of historical resources associated with the agricultural history and landscape development of the area for which the MPS was defined. The only historic resources adjacent to the SR-68 project corridor that are part of this MPS are four canals (Gardner Canal, Saratoga Canal, Utah Lake Distributing Canal, and the Provo Reservoir Canal/Murdock Ditch) and 11 historic ditch segments.

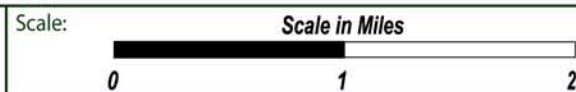
4.3.2 Identification of Public Parks and Recreation Areas

Section 4(f) provides protection to publicly owned parks and recreation areas. It also extends to planned parks and recreational resources that are on publicly owned property. The existing and publicly owned parks and recreation areas located within or adjacent to the right-of-way of the Proposed Action are discussed below. The location of the existing and planned parks and recreation areas are shown in Figure 4-4.

4.3.2.1 Existing Parks and Recreation Areas

The only existing recreation area within the project corridor is Veterans Memorial Park in Camp Williams. This 30-acre park is at 17111 South SR-68 in Bluffdale east of the Proposed Action. The park is maintained by the Utah Department of Parks and Recreation. Facilities at this park include a cemetery, chapel, wall of honor, museum featuring military memorabilia, and an administrative building. The park is located within the boundaries of Camp Williams. **Section 4(f) protection applies** to this publicly owned resource.

⁶ It should be noted that a strict boundary for the MPS does not exist in the same manner that a boundary might exist for a historic district. The boundary for the MPS only defines the area within which individual properties are eligible for consideration for evaluation and listing on the NRHP under the registration requirements set forth in the MPS itself.



Planned Roadways
Municipal Boundaries

Legend:

Existing Trails
Proposed Trails
Existing Parks

References: Saratoga Springs Master Parks and Trails Plan, November 2006
Bluffdale City Planned Trails, November 2004
Mountainland Association of Governments, Master Trails Plan

Figure 4-4
Proposed Trails



4.3.2.2 Planned Parks and Recreational Resources

Twelve trails are planned within the project corridor. The names⁷ of these trails are listed below:

- Redwood Road Trail System, Saratoga Springs and Bluffdale;
- Pony Express Trail, Saratoga Springs;
- SR-73 Trail, Saratoga Springs;
- Utah Lake Distributing Canal Service Road Trail, Saratoga Springs;
- 2100 North Trail, Saratoga Springs;
- Provo Reservoir Canal Service Road Trail, Bluffdale;
- Rock Hollow Trail, Bluffdale;
- Wood Hollow Trail (also known as the Bonneville Shoreline Trail Connector), Bluffdale;
- Porter Rockwell Trail, Bluffdale;
- Utah Lake Distributing Canal Service Road Trail, Bluffdale;
- Utah and Salt Lake Canal Service Road Trail, Bluffdale; and
- Rose Creek Trail, Bluffdale.

Each of the planned resources identified in the list above (except the Redwood Road Trail System) is on land owned by private parties. Therefore, none of these planned recreational trails are a Section 4(f) protected resource.

Redwood Road Trail System – According to the Saratoga Springs Parks and Trail Master Plan dated November 3, 2006, and several meetings with city planning staff, an eight-foot-wide trail system is proposed along SR-68 within the project limits for this project. The city requires developers to maintain a 90-foot right-of-way (on each side of the road) as a standard along SR-68, of which 60 feet is designated for roadway improvements. The remaining 30 feet on each side is set aside for landscaping and placement of this trail/sidewalk. Several segments of this trail have been constructed by developers. However, Section 4(f) does not apply to this existing/planned trail system. The trail is an integral part of the overall transportation system and is not solely used for recreation. This trail will serve as the sidewalk along SR-68 in Saratoga Springs. For these reasons, the Redwood Road Trail system is not considered a Section 4(f) resource.

4.4 USE OF SECTION 4(F) PROPERTIES

FHWA regulations, as found in 23 CFR 771.135(p), define a Section 4(f) “use” as the following:

- “when land is permanently incorporated into a transportation facility;”
- “when there is a temporary occupancy of land that is adverse in terms of the

⁷ Actual trail names were not noted on the Saratoga Springs or Bluffdale City Master Plans. The names used in this section represent the nearest geographic area or roadway.

statute's preservationist purposes as determined by the criteria in paragraph (p)(7) of this section"; or

- "when there is a constructive use of land."

The FHWA Section 4(f) Policy Paper states, "Land will be considered permanently incorporated into a transportation project when it has been purchased as right-of-way or sufficient property interests have been otherwise acquired for the purpose of project implementation."

In general, Section 4(f) does not apply to temporary occupancy (see FHWA Section 4(f) Policy Paper Question and Answer 1C). 23 CFR 771.135(p)(7) defines five conditions that must be met in order for a "no use" resulting from temporary occupancy. These are as follows:

- Duration must be temporary;
- Scope of work must be minor;
- No anticipated permanent adverse physical impacts nor interference with the activities or purpose of the resource;
- The resource must be fully restored; and
- There must be documented agreement with the appropriate Federal, State, or local officials having jurisdiction over the resource.

Constructive use occurs when the project does not require permanent occupation but the project impacts the resource so severely that the activities, features, or attributes that qualify the property or resource for protection under Section 4(f) are substantially impaired. There are no constructive use impacts for this project.

4.4.1 Use of Historic Properties

The impacts to historic properties resulting from the Proposed Action are categorized by criteria established by Section 106 and its implementing regulations (36 CFR 800). These include *No Effect (No Historic Properties Affected)*, *No Adverse Effect*, or *Adverse Effect*. The types of impacts are determined by FHWA and UDOT, followed by concurrence from SHPO. These are documented in a Finding of Effect (FOE). The FOE for this project received concurrence from SHPO on January 19, 2007, and a copy is included in Appendix B.

For purposes of this Section 4(f) Evaluation, historic resources impacted by the Proposed Action are those that have either a finding of *No Adverse Effect (de minimis)* as described in Section 4.1 which usually means a small strip of right-of-way required or a new crossing over a historic canal or railroad track), or *Adverse Effect* (complete parcel acquisition, loss of access, or proximity damages). For this Section 4(f), a property with a finding of *No Effect* is not impacted and no further Section 4(f) analysis is required. Based on these effect definitions, a "use" of a Section 4(f) resource occurs when there is a finding of *No Adverse Effect (de minimis)* or *Adverse Effect*.

4.4.1.1 Historic Properties not Used by the Proposed Action

The Proposed Action will not use or impact five historic properties along the project corridor. These properties have all received a **No Effect** determination; no right-of-way acquisition is required and no other impacts will occur. These properties are listed in Table 4-2.

TABLE 4-2, HISTORIC PROPERTIES NOT IMPACTED BY THE PROPOSED ACTION

Name/Address	Comments
14551 So. Redwood Road, Bluffdale	Retaining wall will be installed to avoid property entirely.
14505 So. Redwood Road, Bluffdale	The alignment will avoid impacts to this property.
South Jordan Canal Bridge	Proposed Action will not impact this structure.
1863 W 14100 So. (14024 So. Redwood Rd.), Bluffdale	Retaining wall will be installed to avoid property entirely.
14012 So. Redwood Road, Bluffdale	Retaining wall will be installed to avoid property entirely.

4.4.1.2 Historic Properties Used by the Proposed Action

Information presented in this section describes the direct uses of historic properties for transportation purposes under the Proposed Action. For this Section 4(f), a “use” as defined in 23 CFR 771.135(p) is classified as either a:

- Minor Use – Slight impact to historic resource (e.g., for a historic canal this could mean that the Proposed Action crosses over it, or for a historic house it could mean a small strip take). For this project, a Minor Use equates to a No Adverse Effect as defined by Section 106 of the NRHP and SHPO; or
- Complete Use – An impact that changes or alters the characteristics of the historic property that make it eligible for inclusion into the NRHP. This generally means that the historic building would be completely removed from its location, setting, and feeling. For this project, a Complete Use equates to an Adverse Effect as defined by Section 106 of the NRHP and SHPO.

Table 4-3 lists the historic properties that will be impacted by the Proposed Action. The impact to each property is discussed in more detail following the table.

TABLE 4-3, HISTORIC PROPERTIES USED BY THE PROPOSED ACTION

Site/Address	Type of Section 106 Effect	Section 4(f) Use	Comments
Gardner Canal (42UT944)	No Adverse Effect	Minor Use (de minimis)	<u>Segment 1:</u> Approximately 40 linear feet of the canal will be impacted through the placement of a new culvert. <u>Segment 2:</u> Approximately 25 linear feet of the canal will be impacted through the placement of a new culvert.
8251 So. SR-68, Saratoga Springs	No Adverse Effect	Minor Use (de minimis)	Strip take. Partial right-of-way acquisition of 4,400 square feet required. Alignment avoids house and contributing features.
Saratoga Canal (42UT945)	No Adverse Effect	Minor Use (de minimis)	Approximately 150 linear feet of the canal will be impacted through culvert extensions and/or placement of a new culvert.
Utah Lake Distributing Canal (42UT946/42SL286)	No Adverse Effect	Minor Use (de minimis)	<u>Segment 1:</u> Less than 20 linear feet of the canal will be impacted through the placement of a new culvert or culvert extensions. <u>Segment 2:</u> Approximately 100 linear feet of the canal will be impacted through realignment and/or placement of a new culvert or culvert extensions.
Provo Reservoir Canal/Murdock Ditch (42UT947/42SL287)	No Adverse Effect	Minor Use (de minimis)	<u>Segment 1:</u> Approximately 45 linear feet of the canal will be impacted through the placement of a new culvert. In addition, approximately 300 feet of the canal may be realigned. <u>Segment 2:</u> Less than 45 linear feet of the canal will be impacted through the placement of a new culvert.
Utah and Salt Lake Canal (42SL295)	No Adverse Effect	Minor Use (de minimis)	Approximately 40 linear feet of the canal will be impacted through the placement of a new culvert or culvert extensions.
South Jordan Canal (42SL291)	No Adverse Effect	Minor Use (de minimis)	Approximately 850 linear feet of the canal will be piped or placed in a culvert to accommodate the widening of SR-68. However, the overall historical integrity of the canal will not be altered.
14284 So. Redwood Rd	Adverse Effect	Complete Use	Complete take of property. Alignment avoids house but eliminates access. Access cannot be restored because of the roadway geometry and steep side slopes.
14214 So. Redwood Rd	Adverse Effect	Complete Use	Complete take of property; Proposed Action will require the removal of the eligible historical outbuilding. The ineligible historical residence associated property will need to be removed, thereby changing the setting, feeling, and association of the eligible outbuilding.

TABLE 4-3, HISTORIC PROPERTIES USED BY THE PROPOSED ACTION

Site/Address	Type of Section 106 Effect	Section 4(f) Use	Comments
14186 So. Redwood Rd	No Adverse Effect	Minor Use (de minimis)	Strip take and partial right-of-way acquisition (approximately 4,400 square feet). Alignment avoids house and contributing features.
14166 So. Redwood Rd.	No Adverse Effect	Minor Use (de minimis)	Strip take and partial right-of-way acquisition (2,200 square feet). Alignment avoids house and contributing features.
14140 So. Redwood Rd	No Adverse Effect	Minor Use (de minimis)	Strip take and partial right-of-way acquisition (2,300 square feet). Alignment avoids house and contributing features.
14129 So. Redwood Rd	No Adverse Effect	Minor Use (de minimis)	Strip take and partial right-of-way acquisition (1,500 square feet). Alignment avoids house and contributing features.
14100 So. Redwood Rd	No Adverse Effect	Minor Use (de minimis)	Strip take and partial right-of-way acquisition (1,500 square feet). Alignment avoids house and contributing features.
14041 So. Redwood Rd	Adverse Effect	Complete Use	Complete take of property. Fill will either impact or require the relocation of this eligible historic house. The sidewalk will be less than 15 feet from the house.
13880 So. Redwood Rd	Adverse Effect	Complete Use	Partial right-of-way acquisition. Alignment avoids house but impacts contributing historic ditch that runs between SR-68 and historic house.

The findings of *No Adverse Effect* conclude that the Proposed Action will not alter directly or indirectly any of the historic characteristics of the resources that make them eligible for the NRHP. Based on these considerations, FHWA and UDOT have made the determination that there is a *de minimis* impact on these resources with SHPO concurrence and that no avoidance analysis is required. However, avoidance analysis is required for the resources that have been determined as an *Adverse Effect* (highlighted in Table 4-3) by the Proposed Action.

4.4.1.3 Multiple Property Submission – The Historical Agricultural Landscape of Northern Utah County

Within the area of the MPS, the Proposed Action will impact three historical ditches and four canal sites that are considered contributing elements of the MPS. The canals are the Gardner Canal, Saratoga Canal, Utah Lake Distributing Canal, and Provo Reservoir Canal/Murdock Ditch and are considered eligible for the NRHP in their own right. As discussed above, impacts to each of the individual canals will result in a *No Adverse Effect* for each site under Section 106. The impacts to the historical ditches include use of 400 linear feet of Ditch 8, 2,700 linear feet of Ditch 4, and 2,600 feet of Ditch 3. Although the Proposed Action will impact some of the documented ditch segments, the majority of the ditch network will remain intact and will convey the agricultural landscape characteristics for which the MPS was proposed. The impacts to these ditch segments results in a *No Adverse*



Effect to the overall MPS under Section 106 as documented in the FOE.

4.4.2 Impacts to Public Parks and Recreational Resources

The only park or recreational resource (existing and planned) that qualifies for protection under Section 4(f) is Veterans Memorial Park. There will be no direct or constructive use impacts to Veterans Memorial Park; no further Section 4(f) analysis is required for this resource.

4.5 AVOIDANCE ALTERNATIVES

This section discusses the required evaluation to determine whether there is a feasible and prudent alternative to the Complete Use (*Adverse Effect*) of the four historic resources (see highlighted resources in Table 4-3). The resources that have a Minor Use (*No Adverse Effect*) do not require Avoidance Alternative analysis under the newly enacted *de minimis* regulations (see Section 4.1.1.2 of this Chapter). The Complete Use historic resources are within Bluffdale City boundaries. The SR-68 Project is needed to accommodate future traffic volumes, improve north-south mobility, improve safety, and correct existing design deficiencies. Traffic analysis of future traffic demand determined that alternatives that will accommodate four travel lanes and one center turn lane are needed on SR-68 for future traffic volumes. To be consistent with Bluffdale City plans (*Bluffdale Proposed Transportation Plan Updates, August 2006*) and neighborhood character, sidewalk, curb and gutter, parkstrips, and shoulders are needed. There are no prudent alternatives that would completely avoid all of the historic properties while meeting the project's purpose and need. While implementation of the No Build Alternative will not result in any impacts to Section 4(f) resources, it does not meet the project purpose and need. Therefore, it is not prudent.

4.5.1 Alternatives Considered to Avoid All Adversely Affected Properties

The Proposed Action adversely impacts the following four historic resources along the project corridor:

- 14284 South Redwood Road;
- 14214 South Redwood Road;
- 14041 South Redwood Road; and
- 13880 South Redwood Road.

The design alternatives considered for complete avoidance of these historic properties included the No-Build Alternative, Location Alternatives (parallel corridors), and a Modified Typical Section.

4.5.1.1 No Build Alternative

The No Build Alternative was analyzed to avoid Section 4(f) resources along the project corridor and as a requirement of the National Environmental Policy Act. However, the No Build Alternative does not meet the project purpose and need as documented in Chapter 1 of this EA. Specifically, the No Build Alternative does not:

- Improve mobility, including reducing travel times and increasing reliability of travel times;
- Improve safety by bringing SR-68 up to current design standards, adding bicycle lanes and shoulders, improving intersection, and installing wildlife



crossings near Camp Williams;

- Improve connectivity between existing transportation arterials and highways;
- Ensure consistency between land use plans and transportation infrastructure;
- Improve access to regional activity centers where suburban residents work and shop; and
- Design and construct the Proposed Action to be a sustainable transportation corridor that is an asset to the community.

4.5.1.2 Location Alternatives

Location alternatives on parallel corridors within approximately one mile of the Proposed Action were evaluated to determine if there was a transportation solution that avoided Complete Use of Section 4(f) resources. The alternatives evaluated in this Section 4(f) analysis included 2700 West and 2200 West (see Figure 4-5). These were deemed not prudent for the reasons discussed below.

The 2700 West and 2200 West Alternative. This alternative would use the existing collector roads, as shown in Figure 4-5. Both alternatives would bypass SR-68 between 15000 South and Bangerter Highway (the location of the Complete Use Section 4(f) resources). These alternatives would include improving 15000 South from SR-68 to 2700/2200 West and 2700/2200 West to Bangerter Highway to a five-lane facility arterial. The section of SR-68 between 15000 South and Bangerter Highway would remain a two/three-lane facility. The 2700 West Alternative and 2200 West Alternative are not considered prudent for the following reasons.

- Does Not Meet Project Purpose and Need as identified in Chapter 1 of this EA. Specifically, these alternatives do not:
 - 1) Improve mobility, including reducing travel times and increasing reliability of travel times. The 2700 West Alternative is approximately one mile west of SR-68 in Bluffdale and would create an out-of-direction travel pattern. 2200 West is ½ mile west of SR-68. Both alternatives would not alleviate SR-68 congestion between 15000 South and Bangerter Highway. Vehicles traveling to or from northern Utah County on SR-68 would more than likely continue using SR-68 north of 15000 South despite an improved and wider 2700/2200 West corridor. Drivers would not likely choose to travel that far out of their direction and would likely continue to use the SR-68 corridor;
 - 2) Improve safety by bringing SR-68 up to current design standards, adding bicycle lanes and shoulders, and improving intersections. While these alternatives would improve the remainder of SR-68 (between the beginning of the project and 15000 South in Bluffdale), no improvements would be made between 15000 South to Bangerter Highway as part of this project. There are no shoulders, intermittent sidewalks, minimal to no center turn lane, and no bicycle lane along this section of SR-68. Safety improvements on SR-68 and at intersections would need to be considered as a separate project and may not avoid Section 4(f) resources;

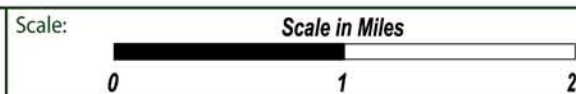
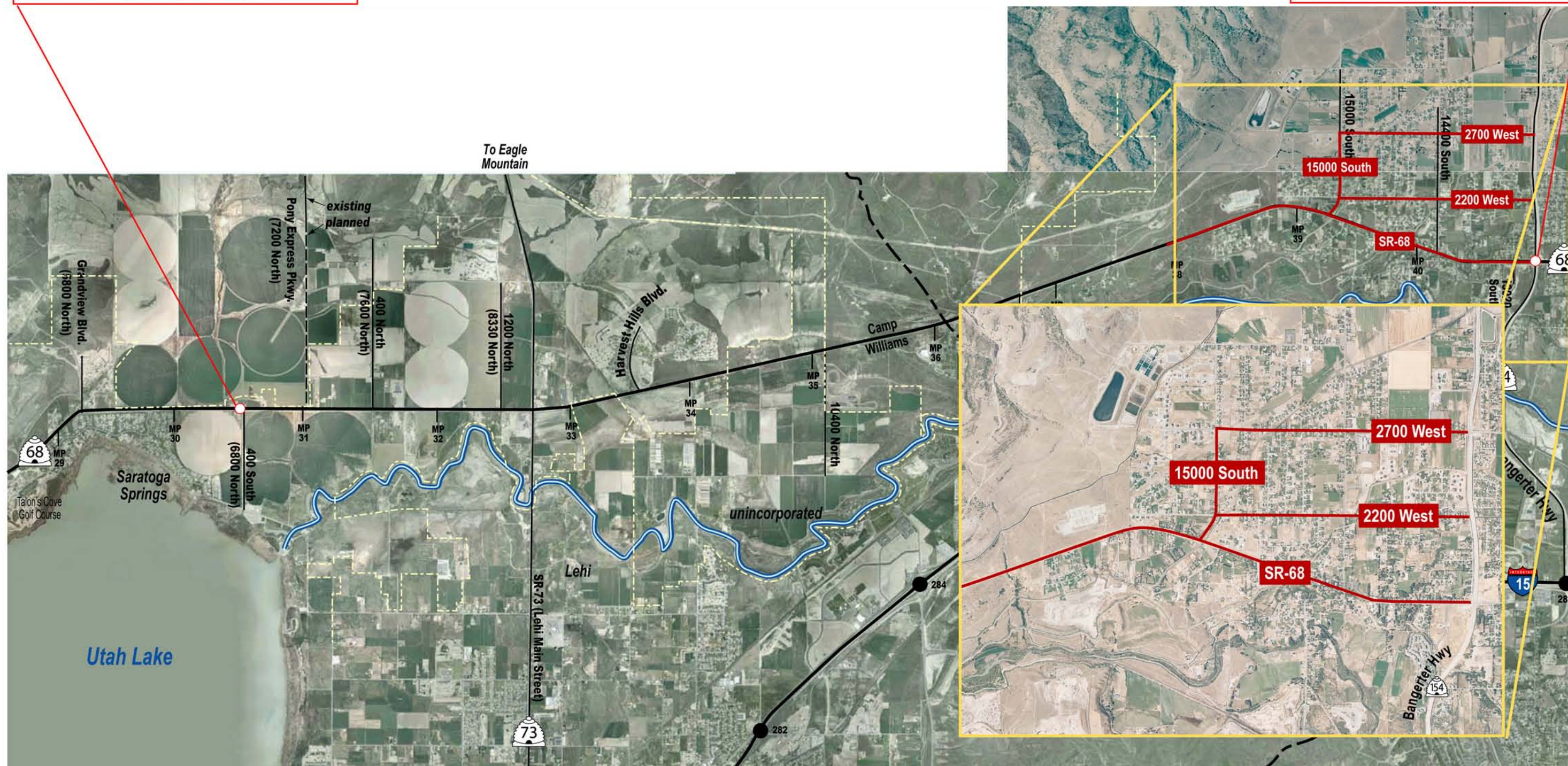


- 3) The 2700 West Alternative and 2200 West Alternative would improve connectivity between transportation arterials, including SR-73 in northern Utah County and Bangerter Highway in Bluffdale. However, the 2700 West Alternative is one mile west of SR-68 in Bluffdale and 2200 West is ½ mile west; both alternatives would require drivers to travel farther west, to either 2700 West or 2200 West. The Proposed Action better meets this need by providing a continuous connection between major transportation facilities;
- 4) Ensure consistency between land use plans and transportation infrastructure. The 2700 West Alternative and the 2200 West Alternative are not consistent with the land use and transportation plans of Bluffdale City. The city has identified 2700 West as a Major Collector road with residential development and 2200 West as a Minor Collector. SR-68 has been identified as a Major Arterial roadway with commercial development by the City of Bluffdale (Proposed Transportation Plan Updates, August 2006) and the Wasatch Front Regional Council (the metropolitan planning organization). The 2700 West Alternative and 2200 West Alternative are not consistent with local, regional, or state planning documents and therefore, would not be considered a long-term asset to the community. Therefore, the 2700 West Alternative and 2200 West Alternative are not consistent with Bluffdale City plans; and
- 5) Improve access to regional activity centers where suburban residents work and shop. 2700 West is a Major Collector with existing and planned residential development along the corridor, and 2200 West is a Minor Collector. The 2700 West Alternative and 2200 West Alternative would not meet this need because regional activity centers are being planned on SR-68.



Southern End of Proposed Project: Saratoga Springs, MP 30.5

Northern End of Proposed Project: Bluffdale, MP 40.8



--- Planned Roadways
--- Municipal Boundaries

Legend:
— Existing Road Alternatives

Figure 4-5
Location Alternatives



- Does Not Meet Local, Regional, and Statewide Planning:
 - 1) Local Planning. The Proposed Transportation Plan Updates for Bluffdale City (August 2006) identifies 2700 West as a Major Collector roadway facility and 2200 West as a Minor Collector. Further, this plan identifies SR-68 through Bluffdale as the only north-south Major Arterial roadway within the city and as the roadway that connects Salt Lake and Utah Counties. The 2700 West Alternative and 2200 West Alternative would not meet the needs of Bluffdale City as identified in its transportation plan;
 - 2) Regional Planning. The Wasatch Front Regional Council's (WFRC) Long Range Transportation Plan addresses the transportation needs for Salt Lake County and the City of Bluffdale. This plan outlines the needs for improving north-south arterial roadways, including SR-68 between Bangerter Highway and the Utah/Salt Lake County line. This plan lists the Salt Lake County portion of SR-68 in the project area between Bangerter Highway and the county line as a Phase 1 Project (construction from two to four lanes prior to 2012). The 2700 West Alternative and the 2200 West Alternative are not consistent with the WFRC's Long Range Plan; and
 - 3) Statewide Planning. In the Draft Statewide Transportation Improvement Projects (STIP) for fiscal years 2007 to 2012, money has been identified for road improvements on SR-68 between Bangerter Highway and the Utah/Salt Lake County line. The 2700 West Alternative and 2200 West Alternative are not consistent with the STIP.
- Increased Environmental Impacts, including Relocations:

Both the 2700 West and 2200 West Alternatives would increase environmental impacts as compared to the Proposed Action. More than 40 residences would need to be relocated as a result of the 2700 West Alternative, and more than 30 for the 2200 West Alternative. Further, these alternatives do not completely avoid impacting Section 4(f) resources.
- Community and Social Impacts

2700 West Alternative and 2200 West Alternative would increase community and social impacts. The 2700 West and 2200 West corridors are residential neighborhoods as planned by officials at Bluffdale City. A five lane facility with 106 feet of right-of-way would adversely impact the community. As discussed above, more than 40 residential units for 2700 West and 30 for 2200 West would have to be relocated and the community character would be impacted by this larger facility. In addition, the impacts farther to the north on 2700 West and 2200 West in Riverton would need to be addressed.
- Connection with Bangerter Highway

2200 West currently does not connect with Bangerter Highway. Therefore, a new connection with Bangerter Highway would be required for this alternative, which would not be consistent with UDOT's Access Management Policy for Limited Access Facilities. The spacing between the existing 2700 West, the new 2200 West intersection, and SR-68 would be approximately ½

mile, which would not meet UDOT standards for a limited access roadway. Also, an intersection at this location would be unsafe due to horizontal curves on Bangerter Highway (not designed or constructed for an intersection at 2200 West).

The 2700 West Alternative and the 2200 West Alternative are not considered prudent because they do not meet the project's purpose and need, do not conform to local, regional or statewide planning documents and efforts, and increase impacts compared to the Proposed Action. Table 4-4 summarizes the impacts by Location Alternative and the Proposed Action.

TABLE 4-4, SUMMARY OF IMPACTS BY LOCATION ALTERNATIVE

Alternative	Meets Project Purpose and Need	Meets Local, Regional, and State Planning Documents	Number of Complete Section 4(f) Uses	Relocations
No Build	No	No	0	0
Proposed Action	Yes	Yes	4	6*
2700 West	No	No	3	40+
2200 West	No	No	9	30+
* Potential of having only four relocations depending on right-of-way negotiations.				

4.5.1.3 Modified Typical Section

Chapter 1 summarizes the traffic modeling developed to determine the number of lanes and typical section needed to accommodate existing and future traffic demands on SR-68 within the project corridor. The typical section has been designed to meet the purpose and need. Through Bluffdale, the proposed typical section includes four 12-foot travel lanes, a 14-foot median, a 10-foot shoulder that includes a bicycle lane, curb and gutter, 6-foot sidewalks, and a 4-foot parkstrip.

A modified typical section was evaluated to avoid Section 4(f) resources that are adversely affected by the Proposed Action. This would include four 11-foot travel lanes (two in each direction), a 12-foot median, no shoulders, and a 4-foot sidewalk with no parkstrips. However, this modified typical section does not meet AASHTO design guidance and many of the goals outlined in the purpose and need.

- **Safety** – The modified typical section described above would not include shoulders within Bluffdale. The lack of shoulders does not provide an area for a bicycle lane or for disabled vehicles to leave the flow of traffic. A shoulder is needed for parking, snow removal, garbage cans, and for future transit stops as recommended by AASHTO guidance for major arterial roadways.
- **Capacity** – A modified typical section does not provide the same capacity as the proposed typical section. A narrower travel lane is less comfortable for the driver (compared to a wider travel lane) resulting in drivers driving more slowly and thereby reducing capacity.
- **Inconsistency** – A modified typical section would be inconsistent with the



other sections of the Proposed Action within the project corridor and other similar type arterial roadways in the area. Drivers expect consistency on arterial roadways. If the cross section narrows, there is a risk for increased crashes due to lack of anticipation (i.e., lack of shoulders, narrower lanes).

- Impacts to Section 4(f) Resources – The modified typical section would still adversely impact historic properties at 13880 South Redwood Road and 14041 South Redwood Road. All Section 4(f) resources could not be avoided.

For these reasons, a modified typical section is not prudent and does not completely avoid historical resources along the project corridor.

4.5.2 Alternatives Considered to Avoid Each Adversely Affected Property

4.5.2.1 14284 South Redwood Road

This historic house is on the west side of SR-68, approximately 850 feet north of the 14400 South intersection. On the east side of the road across from this property and 300 feet north of this residence lies the Bluffdale City Cemetery and two businesses. An eastern alignment to avoid this resource will adversely impact one of the businesses across the street from this residence. More importantly, an eastern alignment shift will involve exhuming more than 35 graves within the Bluffdale City Cemetery. For these reasons, it is not prudent to avoid the 14284 South Redwood Road resource with an eastern alignment shift.

4.5.2.2 14214 South Redwood Road

This historic structure is on the west side of SR-68 across the road from the Bluffdale City Cemetery. An eastern alignment shift to avoid this historic house will involve exhuming more than 35 graves within the Bluffdale City Cemetery. For this reason, it is not prudent to avoid the 14214 South Redwood Road resource with an eastern alignment shift.

4.5.2.3 14041 South Redwood Road

This historic structure is on the east side of SR-68 directly across from the historic house at 14100 South Redwood Road. The Proposed Action was designed to minimize impacts to historic resources along the corridor. As such, the alignment has been shifted to the east to avoid adversely impacting four other historic resources on the west side of SR-68: 14186 South Redwood Road, 14166 South Redwood Road, 14110 South Redwood Road, and 14100 South Redwood Road. For these reasons, an alternative that avoids impacts to this resource is not prudent.

4.5.2.4 13880 South Redwood Road

This historic property is on the west side of SR-68. The impacts to this historic resource include the relocation/piping of a contributing ditch adjacent to the existing SR-68 in front of the property. This residence is approximately 450 feet south of the Bangerter Highway/SR-68 intersection. To completely avoid impacting the historic ditch (considered an Adverse Effect for this property), the Bangerter Highway/SR-68 intersection would have to be shifted east approximately 10 feet and completely reconstructed. Relocating the Bangerter Highway/SR-68 intersection would adversely impact an existing business and a Section 4(f) resource north of this intersection (both the business and Section 4(f) resource are located on SR-68 but farther north of the project study limits). For these reasons, it is not prudent to avoid impacting the historic ditch in front of 13880 South Redwood Road.



4.6 MEASURES TO MINIMIZE HARM

Although there are no prudent and feasible alternatives that will avoid all Section 4(f) resources, measures to avoid or minimize impacts to individual resources were considered and incorporated into the Proposed Action, resulting in the overall limited number of adverse impacts identified in earlier sections of this evaluation. The following sections describe the measures considered to minimize harm to individual Section 4(f) resources that will be impacted by the Proposed Action.

4.6.1 Selection of the Proposed Action

The Proposed Action meets the purpose and need for the project and incorporates measures to minimize harm to historic properties along the SR-68 corridor. The Proposed Action is the most prudent alternative because it avoids adverse impacts to the majority of historic properties along the corridor. The alignment of the proposed SR-68 corridor was shifted east or west during conceptual design to either avoid or reduce the extent to which each Section 4(f) resource will be impacted. The degree to which the alignment was shifted depended primarily on safety concerns. However, these alignment shifts also considered impacts to other Section 4(f) resources, relocations, and other environmental factors. Prudent and feasible shifts were incorporated into the Proposed Action.

4.6.2 Retaining Wall

Retaining walls will be constructed to avoid impacts to the historic properties at 14551 South Redwood Road, 14012 South Redwood Road, and 1863 West 14100 South (14024 South Redwood Road). A retaining wall will also be installed at 13880 South Redwood Road, along the west side of the historic ditch. Construction of the Proposed Action will still adversely impact the ditch, a contributing feature of the property, but the retaining wall will reduce the impacts to the overall historic property to the extent possible. Some of the walls may require a temporary easement on the property.

4.6.3 Mitigation and Memorandum of Agreement

A Memorandum of Agreement (MOA) will be executed between FHWA, UDOT, and SHPO. A copy of the Draft MOA is included in Appendix B. The MOA will stipulate how the adverse impacts to historic properties will be resolved prior to construction of the Proposed Action. The Draft MOA includes the documentation of the historic resources adversely impacted through the completion of an Intensive Level Survey (ILS). An ILS will be completed for the four historic properties adversely impacted. The ILS includes the following:

- Photographs that show such attributes as the interior, exterior, and streetscape. This will include an adequate number of professional quality black and white photographs;
- Research material including a copy and a negative of the legal historic tax card (if available); and
- Repository of all materials with the Division of State History, Historic Preservation Office to be placed on file.

4.7 COORDINATION

This section discusses the coordination efforts between FHWA and UDOT and the various agencies with jurisdiction over the Section 4(f) resources. Coordination efforts between FHWA, UDOT, and SHPO are ongoing and have included discussions about effects and



impacts on Section 4(f) resources, avoidance alternatives, and measures to minimize harm.

SHPO has reviewed and concurred with the DOE and FOE prepared by FHWA and UDOT. The U.S. Department of Interior will review this Section 4(f) Evaluation prior to any concurrence from FHWA.

An MOA will be executed and agreed upon by these agencies. A copy of the Draft MOA is included in Appendix B.

As part of Section 106 regulations, coordination has included correspondence between FHWA and Native American tribes that may have cultural and historical interests in the project area. The tribes consulted include the Skull Valley Band of Goshute Indians, Northwest Band of Shoshone Nation, Uintah and Ouray Tribal Business Committee, and Shoshone-Bannock Tribes. No response has been received from these tribes.

Coordination efforts have also included Bluffdale City and Saratoga Springs City officials. Four meetings and several phone calls occurred with the city planning officials to discuss needs for SR-68 as a major transportation facility and consistency with local, state, and regional planning.

Public open houses were held in Saratoga Springs and Bluffdale City on August 9 and 10 and December 6 and 7, 2006. At these meetings, members of the general public were invited to review the project and to make recommendations or to discuss concerns with project personnel. An official public hearing will be held to provide an opportunity for the public and agencies to comment on the Proposed Action prior to completion of this EA.

4.8 DETERMINATION

To be added later after legal sufficiency review.



CHAPTER 5 - MITIGATION MEASURES

The mitigation measures to address the potential impacts during design and construction are summarized in Table 5-1, Mitigation Measures in Design and Table 5-2, Mitigation Measures in Construction. Table 5-3, Required Permits and Approvals, summarizes the permits needed prior to construction.

TABLE 5-1, MITIGATION MEASURES IN DESIGN

<i>Environmental Issues and Description</i>	<i>Mitigation</i>
Land Use Existing land uses along the project corridor include rural residential, institutional (military), agricultural, business/commercial, and undeveloped. Within Saratoga Springs, the main land use is residential, agricultural, and commercial. The main commercial area is at the intersection of SR-68 and SR-73. Camp Williams, operated by the Utah National Guard, is located at the Utah and Salt Lake County border on both sides of SR-68. The land uses with Bluffdale are mainly residential with some commercial.	None.
Farmland Farmlands including Prime and Unique and Agricultural Protection Areas are located along the corridor. Farmlands are irrigated by a series of canals and ditches.	Access will be maintained to all farmlands along the corridor. The irrigation features and structures impacted will be restored.
Social Resources The project study area is rapidly growing. This section discusses the recreation resources, public facilities, utilities and canals, Environmental Justice, and right-of-way and relocations.	<u>Utilities and Canals</u> Utilities that need to be relocated will be done so during design. All canals will be restored to their original dimensions. Canal companies will be coordinated with during the design phase of this project. <u>Right-of-Way</u> All property will be acquired within state and local procedures and policies. The Uniform Relocations Assistance and Real Property Acquisition Policies Act will be followed during the right-of-way process of this project.



TABLE 5-1, MITIGATION MEASURES IN DESIGN

<i>Environmental Issues and Description</i>	<i>Mitigation</i>
Economics Utah and Salt Lake Counties have experienced a strong job growth and very low unemployment. Residential and commercial development has been strong.	None.
Pedestrian and Bicyclist Considerations The project corridor is used by bicycle enthusiasts. No bike lanes exist along the project corridor. Sidewalks are intermittent.	None.
Air Quality The Proposed Action is consistent with the regional planning efforts of the Wasatch Front Regional Council and the Mountainland Association of Government long range transportation plan.	None.
Noise FHWA's Traffic Noise Model was used to predict existing and future noise levels along the project corridor.	Two noise walls are considered reasonable and feasible along the project corridor. The 1 st noise wall would be located at the Dalmore Meadows subdivision and the other at the Hillcrest Condominiums. To be effective, noise wall #1 would need to be at least eight feet high and noise wall #2 would need ten feet high to reduce noise levels at these locations. A balloting effort for impacted residential units will happen before the completion of this EA.
Geology, Soils, and Topography The project study area runs along the western edge of northern Utah and southern Salt Lake Counties. The areas topography ranges from steep to flat.	None.
Floodplains Only one floodplain exists near the project study area. It is called Wood Hollow drainage and originates in the Traverse Mountains in Camp Williams. This floodplain is located west of the project corridor and does not cross over to the east side.	None.
Water Quality The only open water sources along the project corridor are associated with canals and ditches. Groundwater elevations vary in the project area. There are no well protection zones along the corridor.	None.



TABLE 5-1, MITIGATION MEASURES IN DESIGN

Environmental Issues and Description	Mitigation
Wetlands and Waters of the U.S. Only one wetland area is located along the project corridor. It is found along the banks of the Provo Reservoir Canal and is approximately 0.17 acres in size. The project corridor crosses or is located near seven Waters of the U.S. These include an Irrigation Canal, Utah Distributing Canal (two locations), Provo Reservoir Canal (two locations), Beef Hollow, Utah and Salt Lake Canal, South Jordan Canal (located adjacent to SR-68 – does not cross the roadway), and Rose Creek.	A Clean Water Act Section 404 permit will be obtained prior to the commencement of construction activities. Mitigation may include in-lieu fee and/or revegetation of canal and disturbed areas.
Wildlife and Utah Sensitive Species There is a high rate of wildlife crashes along the project corridor. Deer trying to reach the Jordan River from Camp Williams and other undeveloped areas to the west have to cross SR-68 in order to reach the Jordan River.	Three wildlife crossings are included as part of the Proposed Action.
Threatened and Endangered Species Bald eagles are the only threatened and endangered species that have the potential to occur along the project corridor.	None.
Invasive Species Invasive species have the potential to exist along the project corridor in undeveloped areas.	The Contractor will be required to adhere to UDOT's Special Provision 02924S – Invasive Weed Control.
Historic and Archaeological Resources Along the 10.3 mile corridor, there are 22 historic and archaeological resources. These include canal crossings and historic houses.	A Memorandum of Agreement will be executed between UDOT, FHWA, and SHPO that will include mitigation measures. An Intensive Level Survey will be conducted at the four Adverse Effect historic properties. This will include documentation of the structures with maps and photographs.
Hazardous Waste Two areas have been identified as having underground storage tanks. These are at the LDS Church Welfare Service site in Lehi and the Maverick County Store (#266) in Bluffdale.	The Contractor will be required to adhere to UDOT's Standard Specification 01355 – Environmental Protection.
Visual Quality The project area is located in a rural area that is rapidly being urbanized with residential and commercial development.	None.



TABLE 5-2, MITIGATION MEASURES IN CONSTRUCTION

Construction Impacts	Mitigation
Traffic and Access	<p>Construction activities will be planned to minimize traffic detours, congestion, and delays.</p> <p>Advance notice will be given for all road closures; traffic detours, congestion/delays, and reduced use of the existing roadway as practicable.</p> <p>Property and business owners will be able to report construction problems and should be able to expect resolution in a timely manner.</p> <p>Access to businesses and customer parking will be maintained throughout construction.</p>
Noise	<p>Construction noise impacts are considered temporary and will be minimized through contractors adhering to UDOT Standard Specifications for noise and vibration control.</p>
Air Quality	<p>The Contractor will be required to follow UDOT's Dust Control and Watering Standard Specification.</p>
Water Quality	<p>Disturbed areas will be reseeded and planted with native vegetation as soon as feasible.</p> <p>Best Management Practices (BMPs) will be used to minimize storm water runoff effects.</p> <p>Irrigation features will be maintained during construction so that farming dependent upon them will continue to be economically viable.</p>
Utilities and Canals	<p>Advance notice will be given of all anticipated disruptions to utility service.</p> <p>Water carried by the irrigation facilities will continue to reach farmers during construction. BMPs will be used to maintain the quality of the water within the irrigation facilities during construction.</p>
Hazardous Materials	<p>The contractor will be required to contain all areas used for refueling. Upon discovery of hazardous materials during construction, the contractor will be required to notify UDOT immediately and cease all construction related activities in the area. The Contractor will be required to adhere to UDOT Standard Specification 01355 – Environmental Protection.</p>



TABLE 5-3, REQUIRED PERMITS AND APPROVALS

Agency	Permit/Approval	Status
United States Army Corps of Engineers and Utah Division of Water Rights (UDWR)	Section 404 of the Clean Water Act for discharging material or dredging below the Ordinary High Water Mark in Waters of the U.S. or any activity that potentially alters Waters of the U.S. including wetlands.	
Utah Department of Water Quality	Storm Water General Permit for Construction Activities (if the project disturbs more than 1 acre of surface area during construction). As part of the requirements of this permit, an SWPPP will be developed and incorporated into the final design of the project. Also an Notice of Intent form will be submitted to UDWQ prior to construction. Upon completion of the Proposed Action, a Notice of Termination (NOT) will be submitted to UDWQ.	
Add others as needed		



CHAPTER 6 - COMMENTS AND COORDINATION

6.1 SCOPING PROCESS

The scoping period for the SR-68 Project began with the scoping public meetings that were held August 9 and 10, 2006, in Saratoga Springs and in Bluffdale, respectively. Notification for the public meetings included a postcard that was mailed to all residents and businesses adjacent to SR-68 between Pelican Point in Saratoga Springs and Bangerter Highway in Bluffdale. A formal letter was mailed to affected local municipalities and resource agencies. In addition, the PB project website provided detailed information about where and when these meetings would be held on the “What’s New” page of the SR-68 website. In addition, a hot link from UDOT’s landing page site was set up for the SR-68 Project website.

Presentations were given prior to the public meetings to Camp Williams’ officials and the city councils of Lehi, Saratoga Springs, Bluffdale, and Eagle Mountain. These meetings occurred August 9, July 11, 18, and 25, and August 1, 2006, respectively. Other more informal meetings were convened with resource agency staff and LDS Church Property Management staff. The Salt Lake Bicycle Club requested a presentation that was given September 7, 2006.

At the above-described meetings, project staff explained and showed graphically depicted typical sections of the Proposed Action roadway. These sections were illustrated with two northbound lanes, two southbound lanes, a center turn lane, curb, gutter, sidewalk, bike-lane, and shoulder. Hand-outs included an informational Fact Sheet, a Study Area Map, and a comment form that specifically asked about the current roadway condition, safety, congestion, access, function, and any environmental issues or concerns.

Combined attendance of the public meetings on August 9 and 10, 2006, totaled 90. Below is a summary of comments received during the meetings:

- Drivers currently feel unsafe traveling on SR-68 between Bangerter Highway and Saratoga Springs;
- Bicycle lanes are needed for safety;
- Congestion is an issue, especially at intersections and near driveway accesses on SR-68;
- Stakeholders are concerned about wildlife (deer) crossing the roadway near Camp Williams; and
- Stakeholders feel that improvements are needed as soon as possible.

Sixty-three people attended the Bluffdale meeting at which project team members received 15 comment forms. Twenty-seven people attended the Saratoga Springs meeting and 11 comment forms were received. Following the public meetings, several comment forms were mailed in from residents. Many e-mail and website comments were also submitted. Sixty-four comments came from cycling enthusiasts who would like bike lanes on SR-68. An additional two comments came from city employees. The process is summarized in Figure 6-1, Public Involvement in Environmental Study Process.



6.2 CONSULTATION AND COORDINATION WITH AGENCIES

Resource agencies received notification for the Public Meeting via a mailed formal letter. The agencies that were mailed letters included the following:

- FHWA;
- U.S. Army Corps of Engineers;
- U.S. Department of Interior, Bureau of Reclamation;
- U.S. EPA Region 8, NEPA Coordinator;
- Emergency Services;
- U.S. Department of Homeland Security, Federal Emergency Management Agency (FEMA);
- U.S. Fish & Wildlife Service (USFWS);
- U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS) Utah State Soil Scientist, NRCS – Utah Division;
- U.S. Department of Interior, Bureau of Land Management (BLM) – Utah Office; and
- State of Utah:
 - 1) Governor's Office: Resource Development Coordinating Committee;
 - 2) Division of Air Quality;
 - 3) Division of Forestry Fire & State Lands;
 - 4) Division of Water Rights;
 - 5) Division of Drinking Water;
 - 6) Utah Department of Water Quality;
 - 7) Division of Environmental Response & Remediation;
 - 8) Division of Parks & Recreation;
 - 9) Energy Office;
 - 10) Division of Solid & Hazardous Waste;
 - 11) Division of Wildlife Resources;
 - 12) Utah Geological Survey;
 - 13) Division of Water Resources; and
 - 14) State Historic Preservation Office.



6.3 PUBLIC PARTICIPATION

The specific goal of the public involvement process is to support the NEPA process. These efforts included developing an understanding with and support of local governments, interested agencies, and the general public regarding improvements to SR-68. The objectives of the public involvement process include the following elements:

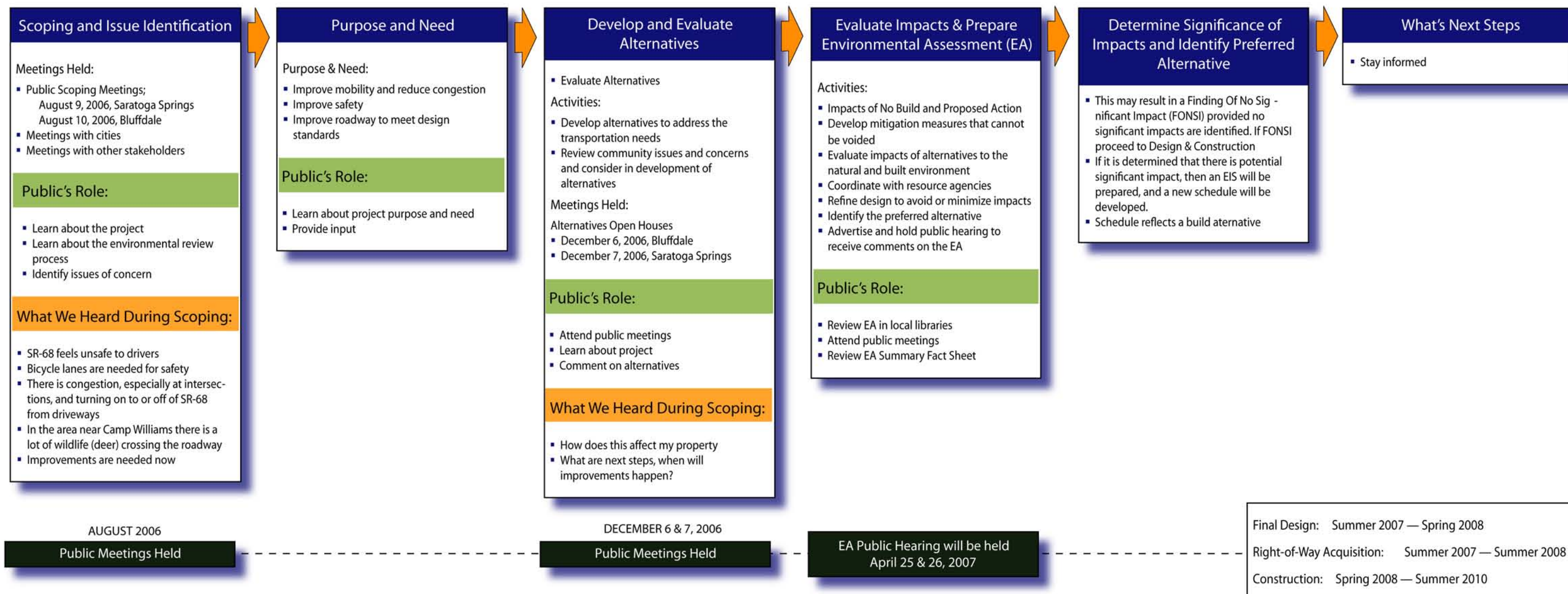
- Clearly present a schedule and activities for the EA process and completion of the Project;
- Identify the public's issues, concerns, and future needs for the roadway;
- Educate stakeholders regarding the existing conditions, projected needs, and related technical issues influencing the potential alternatives and final configuration for the roadway, and
- Provide clear written, graphic, and visual information to effectively convey Project issues, needs, and alternatives.

These elements were satisfied by information and materials presented and available on the project web site and at public meetings. A comment form was created with a combination of specific and open-ended questions to best capture the most pertinent issues with the roadway. These forms were handed out at the public meetings and made available on the project website as an interactive comment form.

The printed materials included the project website address, project contact e-mail, and pertinent telephone numbers. This provided appropriate methods for stakeholders to contact the project team and comment on the project at their leisure.

6.4 COMMENTS AND RESPONSES

Comments were addressed and responses provided as appropriate. Comments received during the NEPA process were used to identify issues for scoping and were considered in the development of the Proposed Action. Comments from the public hearing scheduled for April 25 and 26, 2007 will be added to the final document.





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Acronyms

Acronym	Definition
AASHTO	American Association of State Highway and Transportation Officials
ac	acres
ADA	American with Disabilities Act
APA	Agricultural Protection Areas
APE	area of potential effect
ASTM	American Society of Testing and Materials
BLM	Bureau of Land Management, U.S Department of Interior
BMPs	Best Management Practices
CAA	Clean Air Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
COE	United States Army Corps of Engineers
CSS	Context Sensitive Solutions
CWA	Clean Water Act
dB	decibels
dBA	A-weighted decibels
DOE	Determination of Eligibility
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency (U.S. Department of Homeland Security)
FHWA	Federal Highway Administration
FINDS	Facility Index System/Facility Identification Initiative Program Summary Report
FIFRA	Federal Insecticide, Fungicide, & Rodenticide Act
FIRM	flood insurance rate map
FOE	Finding of Effect
FONSI	Finding of No Significant Impact



Acronym	Definition
FPPA	Farmland Protection Policy Act
ft ²	square feet
FTTS	FIFRA/TSCA Tracking System
HMIRS	Hazardous Materials Information Reporting System
ILS	Intensive Level Survey
L _{dn}	day/night sound level
L _{eq} (h)	equivalent sound level (for specific time frame)
L _{max}	maximum sound level
L _{min}	minimum sound level
LOS	level of service
LWCF	Land and Water Conservation Fund
MAG	Mountainland Association of Governments
MSATs	Mobile Source Air Toxics
MOA	Memorandum of Agreement
MP	Milepost
mph	miles per hour
MPO	Metropolitan Planning Organization
MPS	Multiple Property Submission
MUTCD	Manual on Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NFRAP	No Further Remedial Action Planned sites
NHPA	National Historic Preservation Act of 1966
NO _x	Nitrogen oxide
NO ₂	Nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NRCS	U.S Department of Agriculture, Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI maps	National Wetland Inventory maps
PM ₁₀	particulate matter less than 10 micrometers in size
ppm	parts per million



Acronym	Definition
psi	pounds per square inch
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
ROW	right-of-way
SAFETEA-LU	Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users
SFHAs	Special Flood Hazard Areas
SQG	Small quantity generator
SHPO	State Historic Preservation Officer
SOx	Sulfur oxide
STIP	State Transportation Improvement Program
SWF/LF	solid waste landfills
SWPPP	Storm Water Pollution Prevention Plan
TDM	Travel Demand Management
TMDL	Total Maximum Daily Load
TNM	Traffic Noise Model
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
TSD	Total Dissolved Solids
TSM	Transportation Systems Management
UAC	Utah Administrative Code
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UDOT STIP	UDOT Statewide Transportation Improvement Program
UDWQ	Utah Department of Water Quality
UDWR	Utah Division of Wildlife Resources
UGS	Utah Geologic Survey
USC	United States Code
USDOT	United States Department of Transportation
USGS	United States Geologic Survey
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VMT	Vehicle miles of travel
WFRC	Wasatch Front Regional Council



List of Terms

TERM	DEFINITION
Aquifer recharge area	Area with a recharging effect on aquifers used for potable water.
Adverse Effect	“When the undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the National Register.” (36 CFR 800.5(a))
Alignment	The exact route along which a transportation facility runs.
Alternative or Alternatives	A group of transportation improvements, such as bus or rail transit line, roadway improvements and service additions or modifications
Best management practices (BMPs)	Used during construction, methods that have been determined to be the most effective, practical means of preventing or reducing environmental impacts.
Block group	A subdivision of a census tract, a block group is the smallest geographic unit for which the Census Bureau tabulates sample data.
Census	The census of population and housing is taken by the Census Bureau in years ending in zero. The census form includes both a short form (100% survey) and a long form (sample survey of one in six households).
Census tract	This is a small, relatively permanent statistical subdivision for the purpose of presenting data. Census tract boundaries normally follow visible features, but may follow governmental unit boundaries or other non-visible features. Census tracts average about 4,000 inhabitants.
Construction impact (see also effect, impact)	Temporary impact that would occur over a short period of time while a project is under construction.



Crash	Word used in conversation and/or print instead of 'accident'.
Cumulative impact (see also <i>effect</i> , <i>impact</i>)	Impact that "results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions..." [40 CFR 1508.7 (NEPA)]. The cumulative effects of an action may be undetectable when viewed in the individual context of direct and even indirect impacts but can, nonetheless, add to other disturbances and eventually lead to a measurable environmental change.
Effect (see also <i>impact</i> , <i>construction impact</i> , <i>cumulative impact</i> , <i>operational impact</i> , <i>secondary impact</i>)	"Effect" and "impact" are synonymous. Effects include ecological, aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial. Effects include: (1) <i>direct effects</i> that "are caused by the action and occur at the same time and place," and (2) <i>indirect effects</i> that "are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable." [40 CFR 1508.8 (NEPA)].
Environmental justice	A federal policy that provides equitable outreach benefits to minorities and low-income populations and that any adverse environmental effects are not disproportionate to these historically underserved groups.
Historic property	Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria. The term eligible for inclusion in the National Register includes both properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the National Register criteria.
Impact (see also <i>effect</i> , <i>construction impact</i> , <i>cumulative impact</i> , <i>operational impact</i> , <i>secondary impact</i>)	The effect or consequence of actions. Environmental impacts are effects upon the elements of the environments.



Impervious area	An area where water cannot flow down to groundwater resources.
Jurisdictional wetlands	Areas that are subject to the regulations of the Clean Water Act of 1977. These areas must exhibit all three characteristics: hydrology, hydrophytes, and hydric soils.
$L_{eq}(h)$	Equivalent noise level.
Lead agency	The agency with the main responsibility for complying with NEPA procedural requirements.
Level of Service (LOS)	(1) A qualitative rating of the effectiveness of a highway in serving traffic, measured in terms of operating conditions. (2) The quality and quantity of transportation service provided, including characteristics that are quantifiable (safety, travel time, frequency, travel cost, number of transfers) and those that are difficult to quantify (comfort, availability, convenience, modal image).
Median	A value in an ordered set of values below and above which there is an equal number of values.
Median (roadway)	The center area between opposing directions of travel. For this project the median is native non-irrigated vegetated except at major cross street and other locations.
Mitigation	Measures taken to reduce impacts on the environment. "Mitigation" includes in order of sequence: (1) Avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or taking affirmative steps to avoid or reduce impacts; (3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; (5) compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or (6) monitoring the impact and taking appropriate correction measures 40 CFR 1508.20 (NEPA).
No Adverse Effect	"When the undertaking's effects do not meet the criteria of 36 CFR 800.5(a)(1) 'Adverse Effect' or the undertaking is modified or conditions are imposed to avoid adverse effects." The Proposed Action results in a <i>No Adverse Effect</i> when the impacts to a historic property are minimal but do not completely alter the historic characteristics that qualify it for eligibility onto the NRHP.



No Effect	“Either there are no historic properties present or there are historic properties present but the undertaking would have no effect upon them as defined in 36 CFR 800.16(i).”
Noise Receptors	Sensitive areas including residential units, camping site, churches, and other.
Non-Jurisdictional wetlands	Are regulated under the FHWA; jurisdictional wetlands are regulated by the Army Corps of Engineers.
PM10	Particulate matter less than 10 micrometers in size.
pH	A scientific measurement of hydrogen ion concentration used to express acidity (0.0 to <7.0 values) of alkalinity (>7.0 to 14.0 values).
Preferred Alternative (known as the Proposed Action for this project)	A single alternative, from a list of several alternatives, that a government agency believes best addresses a transportation problem
Prime farmland	The NRCS defines prime farmland as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops.
Public hearing	A public proceeding conducted for the purpose of acquiring information or evidence that will be considered in evaluating a proposed transportation project and that affords the public an opportunity to present for the record their views, opinions, and information on such projects. [CFR 327.3 (a)]
Race	Race is a self-identification characteristic of population and the 2000 census included White and Non-White (Persons of Color). Non-White includes Black or African-American alone, American Indian or Alaska Native alone, Asian alone, Native Hawaiian or other Pacific Islander alone, some other race alone, or a mixture of two or more races. Non-white can include persons of Hispanic/Latino heritage. Some Hispanic/Latinos, however, are White.
Right-of-Way	The land acquired, usually a strip, for or devoted to transportation purposes.
Riparian	Relating to or living or located on the bank of a watercourse (as a river) or sometimes of a lake or a tidewater.



Scoping	Determining the range of proposed actions, alternatives, and impacts to be discussed in an Environmental Document. The required scoping process provides agencies and the public opportunity to comment. Scoping is used to encourage cooperation and early resolutions of potential conflicts, to improve decisions, and to reduce paperwork and delay.
Secondary impact (see also <i>effect, impact; also known as indirect impact in this document</i>)	Impacts that “are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use; population density or growth rate; and related effects on air and water and other natural systems, including ecosystems” [40 CFR 1508.8 (NEPA)].
Section 4(f)	A provision of the U.S. Department of Transportation providing protection for publicly owned public parks, recreation areas, wildlife and waterfowl refuges, or historic sites on or eligible for the National Register of Historic Places [49 USC 303 and 23 USC 138, 23 CFR 771.107(e) and 771.135].
Sensitive noise receptor	Sites such as schools or neighborhoods where people would be exposed to substantially increased noise levels that approach abatement criteria due to a project.
Social resources	Social elements of the environment, including population, housing, community facilities, religious institutions, social and employment services, cultural and social institutions, government institutions, military installations, and neighborhood cohesion.
Sole Source Aquifer	A Sole Source Aquifer is an underground water supply that is the sole or principal source of drinking water for a given area. These are protected by the Safe Drinking Water Act and regulated by the EPA.
Staging area	An area near construction activities that is temporarily used by contractors to store equipment, vehicles, and construction materials. It may also include areas used to temporarily contain potentially contaminated soil or water until treated and/or disposed off-site.